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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/594,896	09/29/2006	Tadahiro Ohmi	039262-0164	8303
22428 7590 05/31/2011 FOLEY AND LARDNER LLP SUITE 500 3000 K STREET NW WASHINGTON, DC 20007			EXAMINER WON, BUMSUK	
			ART UNIT 2889	PAPER NUMBER
			MAIL DATE 05/31/2011	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/594,896

Applicant(s)

OHMI ET AL.

Examiner

BUMSUK WON

Art Unit

2889

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 April 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 11-36 is/are pending in the application.
- 4a) Of the above claim(s) 13-36 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,11 and 12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

The amendment filed on 4/14/2011 has been entered.

Response to Arguments

Applicant's arguments filed on 4/14/2011 have been fully considered but they are not persuasive. Regarding the independent claim 1, the applicant argues that the rejection under 35 USC 103 is improper because Tamura (US 2005/0093455) fails to teach or suggest the claim limitation of the number of water molecules adsorbed on an inner wall of the reduced pressure vessel is not greater than 1×10^{16} molecules/cm³. The examiner respectfully agrees in part that Tamura does not teach such limitation. However, the examiner respectfully disagrees in part that Tamura does not suggest such limitation. It is widely known in the art to reduce water molecules adsorbed on an inner wall because higher water molecules would deteriorate layers such as phosphor layers which would reduce the reliability of the lamp¹. Therefore, the examiner maintains the rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 11, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tamura (US 2005/0093455).

Regarding claim 1, Tamura discloses a vacuum tube having a reduced-pressure vessel containing at least a discharge gas sealed for electric discharge, wherein the sum total of the number of organic gas molecules, the number of water molecules, and the number of oxygen molecules remaining inside said reduced-pressure vessel is smaller than the number of molecules of said discharge gas.

Tamura does not specifically disclose the number of water molecules adsorbed on an inner wall of the reduced pressure vessel is not greater than 1×10^{16} molecules/cm³.

However, it is widely known in the art to reduce water molecules adsorbed on an inner wall because higher water molecules would deteriorate layers such as phosphor layers which would reduce the reliability of the lamp.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have the number of water molecules adsorbed on an inner wall of the reduced pressure vessel is not greater than 1×10^{16} molecules/cm³.

Also, one of ordinary skill in the art would have been led to the recited ranges through routine experimentation and optimization. Applicant has not disclosed that the ranges are for a particular unobvious purpose, produce an unexpected result, or are otherwise critical, and it appears prima facie that the process would possess utility using another ranges. Indeed, it has been held that mere ranges limitations are prima facie obvious absent a disclosure that the limitations are for a particular unobvious purpose, produce an unexpected result, or are otherwise critical.

¹ At least Wiedijk (US 3,784,275), Graves (US 3,475,072), Ohmi (US 2006/0097641), and Ohdaira (US 2005/0263719) discusses negative effect of moisture adsorption on the wall of lamps.

Regarding the claim limitation of "a reduced pressure vessel that is a component of a device selected from the group consisting of: vacuum tube, a fluorescent tube, a cold cathode tube, a deuterium discharge tube, an electron beam tube, and X-ray generating tube, an ultraviolet generator, and a static electricity neutralizer," the examiner notes that such claim limitation recites intended use of the structure disclosed by Tamura; thus, the claim limitation does not sufficiently modify the claimed structure of the device such that the claimed structure differentiates from the structure of the prior art of Tamura.

Also, the examiner notes Tamura discloses the device generates ultraviolet light (paragraph 99).

Regarding claim 2, Tamura discloses a ratio of said number of molecules of said discharge gas to the sum total of said number of organic gas molecules and said number of water molecules is not smaller than ten times (paragraph 61, not higher than 100 ppm is less than 10,000 times).

Regarding claim 11, Tamura discloses a gas selected from Ar, Kr, or Xe (paragraph 29).

Regarding claim 12, Tamura discloses the vessel is made of silicon oxide as a main component (paragraph 29, "quartz glass").

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BUMSUK WON whose telephone number is (571)272-2713. The examiner can normally be reached on Monday through Friday, 8:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Minh Toan Ton can be reached on 571-272-2303. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Bumsuk Won/
Primary Examiner, Art Unit 2889